

## TAXONOMIC STUDY ON THE GENUS GERONTHA WALKER (LEPIDOPTERA, TINEIDAE) FROM CHINA, WITH DESCRIPTIONS OF FOUR NEW SPECIES

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**Abstract** Ten species of the genus *Gerontha* Walker are reviewed from China. Among them, four species are described as new (*G. similihoenei* sp. nov., *G. rostriformis* sp. nov., *G. trapezia* sp. nov., and *G. rugulosa* sp. nov.), and three species are newly recorded for China (*G. siamensis* Moriuti, *G. navapuriensis* Moriuti and *G. borea* Moriuti). The females of *G. flexura* Huang, Hirowatari & Wang and *G. siamensis* Moriuti are reported for the first time. A key to all the known Chinese species is given.

**Key words** Lepidoptera, Tineidae, *Gerontha*, taxonomy, new species, China.

### Introduction

The genus *Gerontha* was established by Walker in 1864 based on the type species *Gerontha captiosella* Walker, collected from Ceylon. It is characterized by the forewings elongate and bearing tufts of raised scales on most part of the forewing surface, the retinaculum absent, the hindlegs greatly elongate and rigidly held backwards, the saccus and aedeagus elongate and slender (Robinson & Nielsen, 1993).

The genus comprises 23 named species to date. It is distributed mostly in the Oriental and Palearctic Regions: four species were recorded from Philippine Islands (Diakonoff, 1968), eleven from Southeast Asia (Moriuti, 1989), three each from China (Petersen, 1987; Davis, 1992; Huang, et al., 2006), Russia (Zagulajev, 1972), Japan (Moriuti, 1977, 1989) and Korea (Ponomarenko & Park, 1996). In addition, two unnamed and one named species were reported from Australia (Robinson & Nielsen, 1993).

The larva of *Gerontha captiosella* Walker was reported to be a borer of the dead tree of *Shorea rubusta* Gaertner. A female *Gerontha* was observed attempting to oviposit in the cork of a collecting-tube. The adults are attracted to light, which have a powerful 'buzzy' flight and a characteristic 'tineid scuttling run' movement (Fletcher, 1933; Moriuti, 1989; Robinson & Nielsen, 1993).

The present paper describes four new species and reports three new record species for China based on the specimens collected from Guizhou, Henan, Hubei, Guangxi, Yunnan and Zhejiang, China. The females of *Gerontha flexura* Huang, Hirowatari & Wang and *G. siamensis* Moriuti are described for the first time. All the specimens studied, including the types, are deposited in the Insect Collection, College of Life Sciences, Nankai University, Tianjin, China.

### *Gerontha* Walker, 1864

*Gerontha* Walker, 1864: 782; Diakonoff, 1955: 115; Diakonoff, 1968: 267; Moriuti, 1989: 87; Robinson & Nielsen, 1993: 242; Robinson & Tuck, 1996: 9.

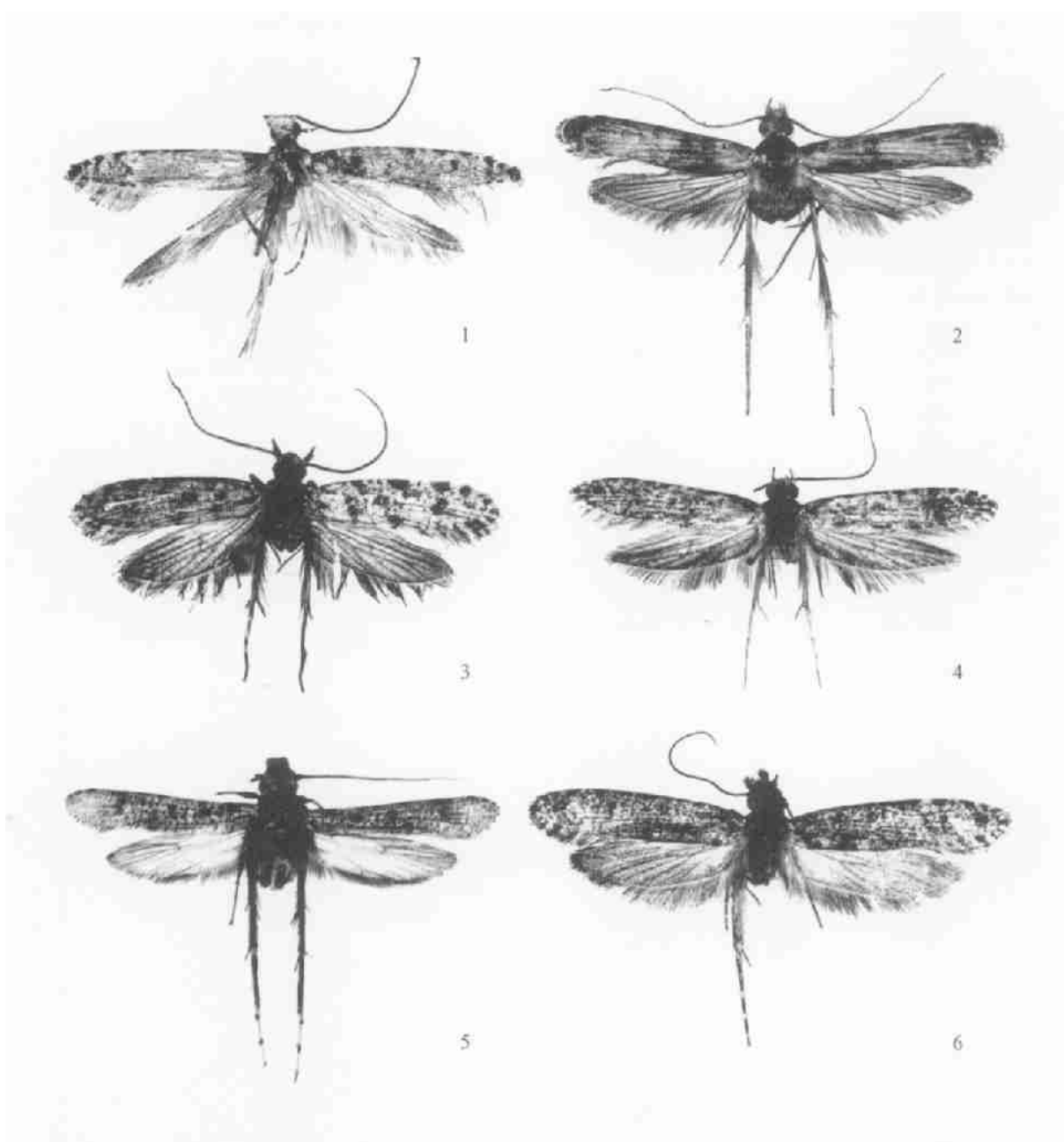
Type species: *Gerontha captiosella* Walker, 1864.

#### Key to the Chinese species of *Gerontha* Walker

1. Forewings with  $M_3$  and  $CuA_1$  connate, hindwings with  $M_3$  and  $CuA_1$  connate or short-stalked ..... 2  
Forewings with  $M_3$  and  $CuA_1$  stalked, hindwings with  $M_3$  and  $CuA_1$  separated ..... 5
2.  $R_5$  reaching costal margin ..... 3  
 $R_5$  reaching apex ..... 4
3. Gnathos with median portion strongly convex in arc shape and bearing microtricha ..... *G. hoenei* Petersen  
Gnathos with median portion slightly convex in somewhat inverted shape and lacking microtricha ..... *G. similihoenei* sp. nov.
4. Valvae with ventral margin inflexed at about 2/5 .....  
..... *G. rostriformis* sp. nov.  
Valvae with ventral margin greatly concave at middle .....  
..... *G. trapezia* sp. nov.
5. Gnathos medially fused and forming a large and broad plate ..... 6  
Gnathos small, medially not forming a large and broad plate ..... 8
6. Uncus slightly concave at apex ..... 7  
Uncus short rod-shaped at apex ..... *G. rugulosa* sp. nov.
7. Aedeagus with apex obtusely pointed ..... *G. siamensis* Moriuti  
Aedeagus with apex somewhat truncate ... *G. navapuriensis* Moriuti
8. Uncus concave at apex ..... 9  
Uncus short rod-shaped at apex ..... *G. dracuncula* Meyrick
9. Uncus slightly concave at apex .....  
..... *G. flexura* Huang, Hirowatari & Wang  
Uncus heavily concave in shape at apex ..... *G. borea* Moriuti

*Gerontha similihoenei* sp. nov. (Figs. 1, 10)

**Diagnosis.** The new species is similar to *Gerontha hoenei* Petersen, but can be separated from it by the uncus with hooked apex; the gnathos gently convex at middle, somewhat inverted V-shaped, lacking microtricha; and the vinculum slightly concave at middle on posterior margin. In *G. hoenei* Petersen, the uncus is somewhat triangular; the gnathos is greatly convex in an arc and



Figs. 1-6, Adults of *Gerontha* spp. 1. *G. similioenei* sp. nov. 2. *G. rugulosa* sp. nov. 3. *G. trapezia* sp. nov. 4. *G. rostriformis* sp. nov. 5. *G. dracuncula* Meyrick. 6. *G. flexura* Huang, Hirowatari & Wang.

bears microtricha in the median portion; and the vinculum obviously protrudes backwards at middle.

Adult (Fig. 1). Wingspan 15.0 mm. Head white. Labial palpi white except for basal 2/3 of second segment and median portion of third segment dark brown on outer side. Thorax and tegulae white mixed with grayish brown. Forewings with apex pointed;  $R_4$  and  $R_5$  stalked for about 2/3 length of  $R_4$ ,  $R_5$  reaching costal margin,  $M_3$  and  $CuA_1$  connate; ground color white with scattered dark brown scales, which form small spots along costal margin; obvious purple brown tuft of raised scales situated at base of wings and end of cell respectively; cilia grayish ochreous, sparsely tinged with dark brown.

Hindwings with  $M_1$  and  $M_2$  stalked for about 2/3 length of  $M_1$ ,  $M_3$  and  $CuA_1$  stalked for about 1/5 length of  $M_3$ ,  $CuA_2$  originating from 4/5 of cell; grayish white, transparent, basally with grayish coarse scales along costal margin; cilia light gray, length equal to about width of hindwings.

Male genitalia (Fig. 10). Uncus with posterior margin deeply concave in broad shape; apex hooked, greatly curved outwards, laterally folded inwards in somewhat triangular form. Gnathos medially fused, slightly convex in somewhat inverted shape. Valvae with length about 2.0 × width, basally broad, distally dilated, apex rounded; costa somewhat straight; ventral

margin greatly concave in somewhat semicircular form from about  $1/2$  to  $3/4$ ; a slightly arched band in inner side apically extending beyond apex of sacculus, basally descending across anterior  $1/3$  of vinculum. Sacculus greatly developed, about  $0.5 \times$  width and  $0.6 \times$  length of valvae, apex triangularly protruding. Vinculum gradually broadened from base to about middle half, slightly concave at middle on posterior margin, more deeply and widely concave at middle on anterior margin. Saccus with length about  $3.7 \times$  valvae, apex pointed. Juxta inconspicuous. Aedeagus equal to length of saccus, truncate at apex, with a short rod-shaped cornutus at about  $2/3$ , and a long, slender dentation in distal  $2/3$ .

Female. Unknown.

Holotype, China, Kunming (25°04'N, 102°42'E), Yunnan Province, 2080 m, 1 Sep. 2005, coll. REN Ying-Dang, genitalia slide no. XYL05046.

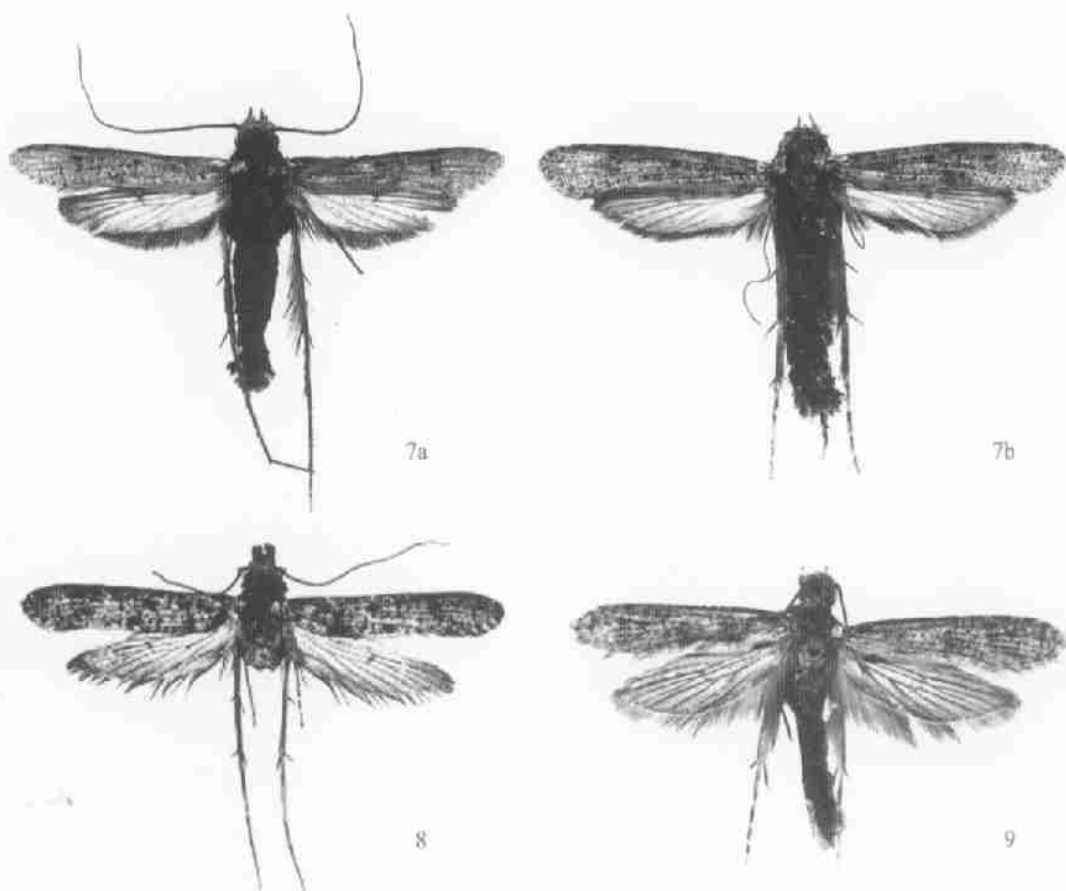
Distribution. China, Yunnan.

Etymology. The specific name is derived from the Latin prefix *simil-* (= similar), in reference to the similarity of the new species to *Gerontha hoenei* Petersen.

*Gerontha rugulosa* sp. nov. (Figs. 2, 11)

Diagnosis. The new species is similar to *G. dolichophallica* Moriuti. It can be separated from the latter by the valvae slightly curved beyond middle and obtusely rounded at apex, and the gnathos with distal  $1/3$  abruptly narrowed to a short rod-shaped process. In *G. dolichophallica* Moriuti, the valva is somewhat boot-shaped and broadly truncate at apex, and the gnathos is gradually narrowed from base to apex. The new species is also similar to *G. akahatii* Moriuti in appearance, but can be distinguished from it by the uncus distally extending to a short rod, the gnathos densely covered with microtrichia in basal  $1/3$ , the valvae with length about  $3.2 \times$  width, the vinculum broadened medially, concave slightly at middle on posterior margin, projecting laterally on anterior margin. In *G. akahatii* Moriuti, the uncus is bifid at apex, the middle plate of the gnathos has no microtrichia, the length of valvae is about  $2.5 \times$  width, and the vinculum is somewhat triangular.

Adult (Fig. 2). Wingspan 17.5 mm. Head light



Figs. 7-9. Adults of *Gerontha* spp. 7. *G. siamensis* Moriuti (a. Male, b. Female.). 8. *G. navapuriensis* Moriuti. 9. *G. borea* Moriuti.

grayish white. Labial palpi with second segment white on inner side and ocherous brown on outer side; third segment with basal half white but ocherous brown basally, distal half ocherous brown; inner side of brush scales white and outer side ocherous brown. Thorax dark ocherous brown. Tegulae grayish brown in basal half and white in distal half. Forewings with apex rounded;  $R_4$  and  $R_5$  stalked for about  $2/3$  length of  $R_4$ ,  $R_3$  connate with  $R_{4+5}$ ,  $R_5$  reaching apex,  $M_3$  stalked with  $CuA_1$  for about  $1/3$  length of  $M_3$ ; ground color grayish white, mixed with dark brown scales which become denser at  $1/3$  and apex, ocherous brown transversal band situated at about  $1/5$  and  $1/3$  respectively, some small and big tufts formed by raised white mixed with ocherous brown scales respectively situated at base and subapex, at base and  $1/2$  of  $R_2$ , at upper and lower angles of cell; cilia ocherous white, basally with a dark brown arc-shaped band. Hindwings and cilia dark gray, semi-transparent, basal  $3/5$  covered with white scales along costal margin;  $M_1$  and  $M_2$  separated,  $CuA_1$  and  $CuA_2$  arising from  $3/4$  and  $2/3$  of cell respectively; cilia length about  $1/2$  width of the wing.

Male genitalia (Fig. 11). Uncus more or less triangular, apically extending to a short rod. Gnathos medially fused: broad at base, slowly narrowed to about  $2/3$ , distal  $1/3$  abruptly narrowed to a short rod-shaped process; bearing microtricha in basal  $2/3$  laterally. Valvae with length about  $3.2 \times$  width, somewhat curved, apex obtusely rounded; costa curved to about  $120^\circ$ , a little beyond middle; ventral margin convex; inner side with a slender sclerotized band near ventral margin in basal half. Saccus inconspicuous. Vinculum medially broadened, slightly concave at middle on posterior margin, laterally projecting on anterior margin. Saccus about  $1.7 \times$  valvae in length, slightly curved near base and apex, apex obtusely pointed. Juxta inconspicuous. Aedeagus about  $3.5 \times$  length of valvae; basal  $3/5$  weakly sclerotized and densely rugulose; apex obtusely rounded.

Female. Unknown.

Holotype, China, Bubang, Mengla County (21°29' N, 101°33' E), Yunnan Province, 650 m, 25 Aug. 2005, coll. REN Ying-Dang, genitalia slide no. XYL05047.

Distribution. China, Yunnan.

Etymology. The specific name is derived from the Latin *rugulosus* (= rugulose), in reference to aedeagus densely rugulose in basal  $3/5$ .

*Gerontha trapezia* sp. nov. (Figs. 3, 12)

Diagnosis. The new species resembles *Gerontha namhaensis* Ponomarenko & Park, but differs from the latter in the uncus obtusely pointed at apex, the vinculum with posterior margin medially convex in trapezoid form, the saccus curved in distal half, and the juxta developed.

In *G. namhaensis*, the uncus is obviously concave at apex, the vinculum is triangularly convex on posterior margin, the saccus is somewhat straight, and the juxta is inconspicuous.

Adult (Fig. 3). Wingspan 12.0–15.0 mm. Head and thorax ocherous white. Labial palpi ocherous white but dark brown on outer side of second segment. Tegulae grayish brown except for ocherous white along posterior margin. Forewings rounded at apex;  $R_4$  and  $R_5$  stalked for about  $2/3$  length of  $R_4$ ,  $R_3$  connate with  $R_{4+5}$ ,  $R_5$  reaching apex,  $M_3$  and  $CuA_1$  connate; ground color grayish white, bearing scattered ocherous brown spots, dots and raised scales; obvious tufts of raised scales respectively located at  $1/4$ ,  $1/2$ ,  $2/3$  along costal margin, at  $1/3$ ,  $1/2$  and end of cell, at base,  $1/3$  and  $2/3$  along anal fold; cilia grayish white, basally with a band not continuously arc-shaped. Hindwings with  $M_1$  and  $M_2$  stalked for about  $3/5$ – $2/3$  length of  $M_1$ ,  $M_3$  and  $CuA_1$  connate,  $CuA_2$  originating from  $2/3$  of cell; pale grayish white, basal  $3/5$  with pale ocherous white scales along costal margin; cilia dark gray, short but elongate close to base of posterior margin.

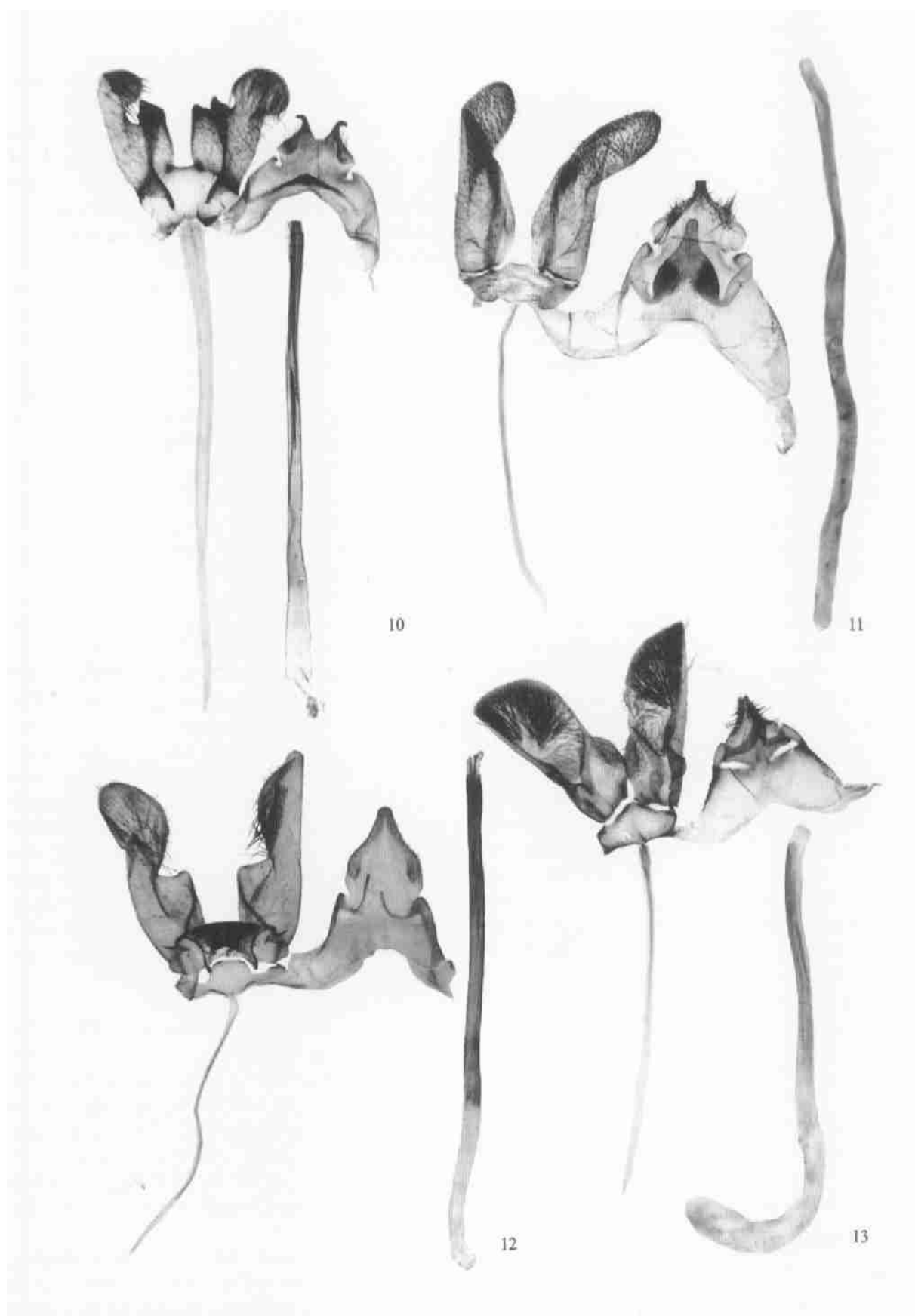
Male genitalia (Fig. 12). Uncus somewhat triangular, apex obtusely pointed. Gnathos small and arched. Valvae with length about  $3.3 \times$  width, basal half rectangular, distal half gradually broadened to near apex, apex broadly rounded; costa straight; ventral margin deeply concave in shape at middle; inner side with a slender band extending from base to near apex of saccus. Saccus developed, about  $0.5 \times$  width and length of valvae, apex broad and somewhat straight. Vinculum medially somewhat squarely shaped, laterally extending in broad band form. Saccus length about  $1.5 \times$  valvae, obtusely pointed at apex. Juxta gently arched on posterior margin, concave on anterior margin, with a shallow, somewhat U-shaped, sclerotized plate at center. Aedeagus about twice length of valvae, apex obtusely pointed.

Female. Unknown.

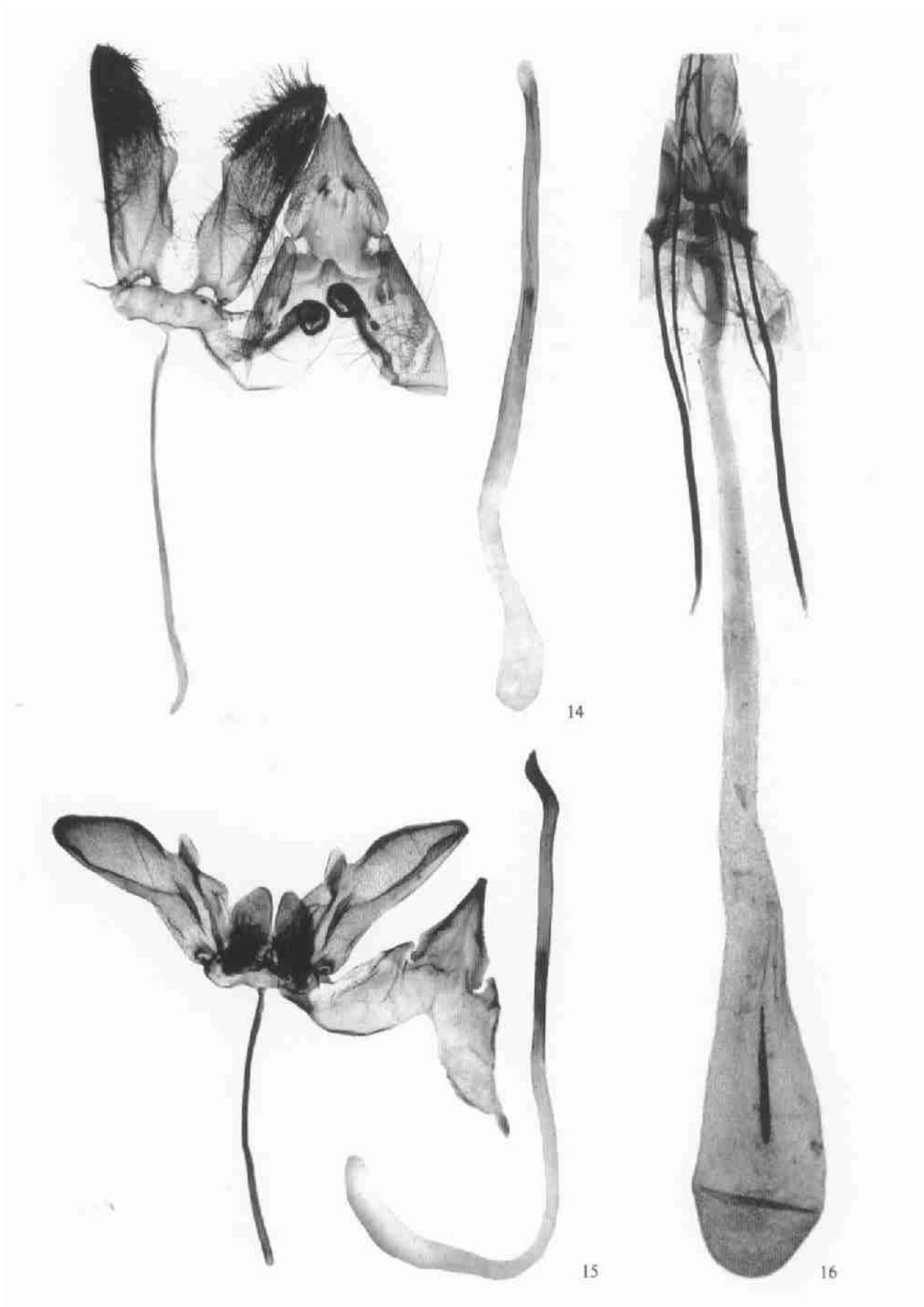
Holotype, China, Mt. Tianmu (30°26' N, 119°34' E), Zhejiang Province, 1140 m, 17 Aug. 1999, coll. LI Hou-Hun et al., genitalia slide no. XYL03218. Paratypes: 1, Dashahe Nature Reserve, Daozhen County (28°53' N, 114°39' E), Guizhou Province, 1350 m, 24 Aug. 2004, coll. XIAO Yun-Li; 1, Rongshui County (25°04' N, 109°13' E), Guangxi Zhuangzu Autonomous Region, 579 m, 13 July 2004, coll. XU Jia-Sheng.

Distribution. China, Guangxi, Guizhou, Zhejiang.

Etymology. The specific name is derived from the Latin *trapezium* (= trapezoid), in reference to vinculum with posterior margin medially convex in form of trapezoid.



Figs. 10-13. Male genitalia of *Gerontha* spp. 10. *G. similhoenei* sp. nov. 11. *G. rugulosa* sp. nov. 12. *G. trapezia* sp. nov. 13. *G. rostriformis* sp. nov.



Figs. 14-16. Genitalia of *Gerontha* spp. 14. Male of *G. dracuncula* Meyrick. 15-16. *G. flexura* Huang, Hirowatari & Wang. 15. Male. 16. Female.

*Gerontha rostriformis* sp. nov. (Figs. 4, 13)

**Diagnosis.** The new species is similar to *Gerontha ampliptera* Ponomarenko & Park, but is recognizable by the gnathos medially fused in beak form, the vinculum with posterior margin triangularly convex and anterior margin somewhat straight, and the aedeagus only slightly longer than saccus. In *G. ampliptera* Ponomarenko & Park, the gnathos is inconspicuous, the vinculum is gently sinuate on posterior margin and curves in M shape on anterior margin, and the aedeagus is about 1.5 × length of saccus.

*Gerontha rostriformis* sp. nov. also resembles *G. namhaensis* Ponomarenko & Park. But in the new species the uncus is slightly concave at apex, the ventral margin of valvae is inflexed at about 2/5, the vinculum is triangularly convex on posterior margin and somewhat straight on anterior margin, and the aedeagus is slightly longer than saccus. In *G. namhaensis* Ponomarenko & Park, the uncus is deeply concave, the ventral margin is strongly concave at middle, the vinculum is more or less triangularly convex in both anterior and posterior margins, and the aedeagus is about 1.5 × length of saccus.

**Adult** (Fig. 4). Wingspan 17.0 mm. Head ochreous white. Labial palpi ochreous white except second segment dark brown on outer side. Thorax ochreous white. Tegulae with anterior half ochreous brown, posterior half ochreous white. Forewings obtusely pointed at apex;  $R_4$  stalked with  $R_5$  for about 3/5 length of  $R_4$ ,  $R_5$  reaching apex,  $M_3$  and  $CuA_1$  connate; ground color grayish white, with scattered dark brown or white spots and dots; eleven big and small tufts of white slightly tinged with yellowish brown scales ranging from about base to near apex, two at about 2/3 the biggest; cilia grayish ochreous, sparsely mixed with dark brown. Hindwings with  $M_1$  and  $M_2$  stalked for about 2/3 length of  $M_1$ ,  $M_3$  and  $CuA_1$  very short-stalked,  $CuA_2$  originating from 2/3 of cell; dark gray, basal 3/5 with ochreous white scales along costal margin; cilia light gray, length about 1/2 width of hindwings.

**Male genitalia** (Fig. 13). Uncus irregularly quadrangular, gently concave at apex. Gnathos medially fused in beak shape. Valvae with length about 2.5 × width, somewhat rectangular, apex broad and truncate; costa more or less straight; ventral margin inflexed at about 2/5; inner side with two slender bands: one long, extending from base to subapex along costa, and bearing a small process at about 1/4; the other short, obliquely extending from base to apex of sacculus, gradually narrowed in distal 1/3 and with short setae along dorsal margin. Sacculus weakly developed, about 2/5 length of valvae. Vinculum with posterior margin triangularly convex, anterior margin somewhat straight. Saccus about twice length of valvae, pointed at apex. Juxta

inconspicuous. Aedeagus about 2.4 × valvae in length, basally membranous and curved, apically obtusely rounded.

**Female.** Unknown.

**Holotype**, China, Xixia City (33°18' N, 111°29' E), Henan Province, 890 m, 16 July 1998, coll. LI Hou-Hun, genitalia slide no. XYL03577.

**Distribution.** China, Henan.

**Etymology.** The specific name is derived from the Latin *rostriformis* (= rostriform), in reference to the beak-like gnathos.

*Gerontha dracuncula* Meyrick, 1928 (Figs. 5, 14)

*Gerontha dracuncula* Meyrick, 1928: 428; Davis, 1992: 63; Robinson & Tuck, 1996: 9.

*Gerontha sirii* Moriuti, 1989: 101.

**Adult** (Fig. 5). Wingspan 28.0–31.0 mm.

**Male genitalia** (Fig. 14). As illustrated.

**Material examined.** 2, China, Mengla County (21°29' N, 101°33' E), Yunnan Province, 650 m, 24–25 Aug. 2005, coll. REN Ying-Dang.

**Distribution.** China, Yunnan, Taiwan; Thailand.

**Remarks.** The species is characterized by the uncus possessing two small rounded median processes; juxta having two elongate narrow arms, with a curved apical spine.

The specimens from Thailand (Moriuti, 1989) are slightly different by uncus not concave at apex, juxta with apex extending in a curved triangular spine.

*Gerontha flexura* Huang, Hirowatari & Wang, 2006 (Figs. 6, 15, 16)

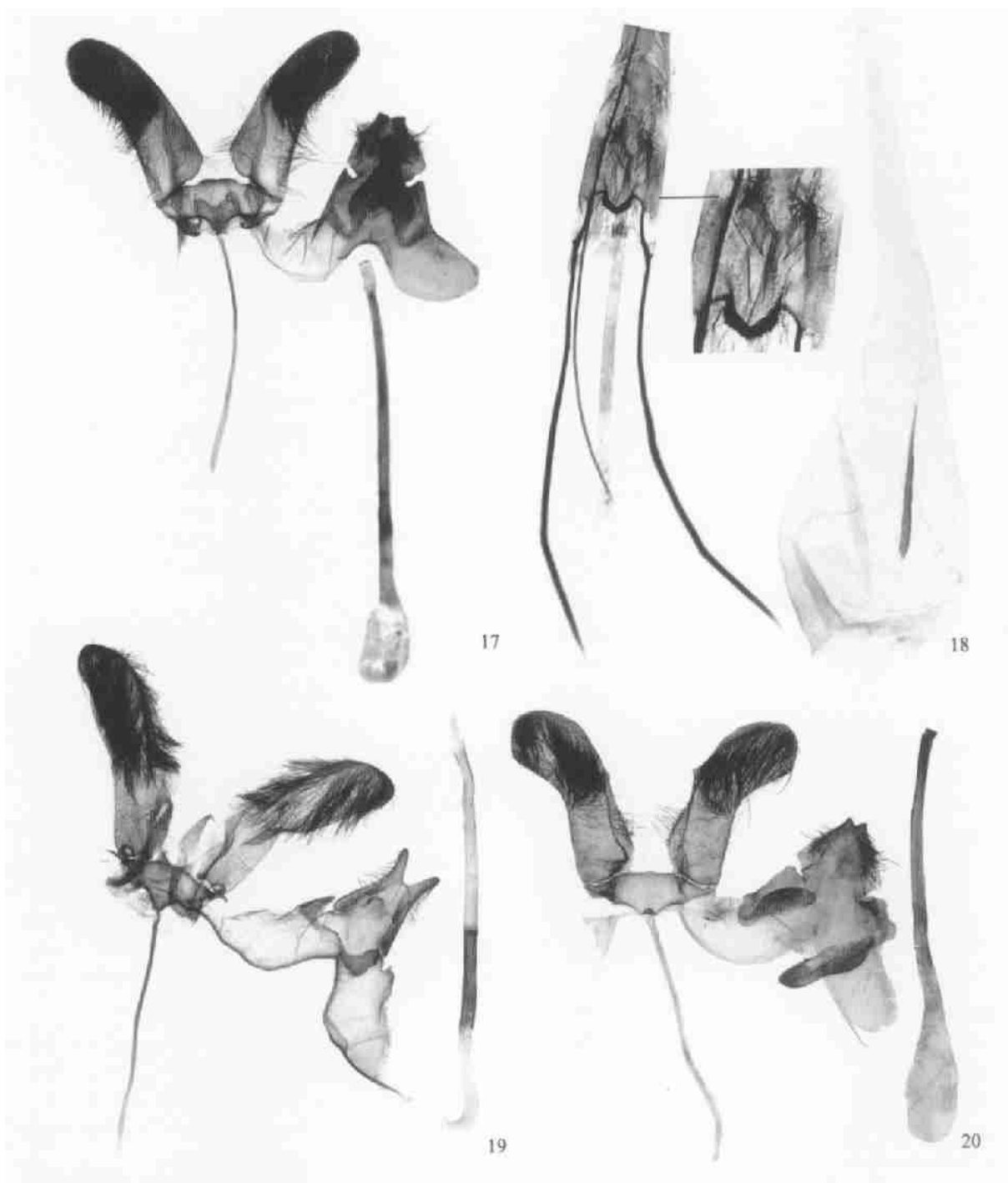
*Gerontha flexura* Huang, Hirowatari & Wang, 2006: 132.

**Adult** (Fig. 6). Wingspan 23.0–29.0 mm.

**Male genitalia** (Fig. 15). As illustrated.

**Female genitalia** (Fig. 16). The eighth tergum laterally sclerotized, subtriangular; anterior margin with lateral 1/4 slender, joined with apophyses anteriores; medial 1/2 convex in a somewhat rectangle, covered with many small dentate processes, narrowed in middle, irregularly oval laterally. Ostium more or less Y-shaped, rounded at caudal corners, covered with long hairs along caudal margin. Ductus bursae narrow and membranous, anterior 1/3 gradually broadened. Corpus bursae long pyriform, not separated conspicuously from ductus bursae. Signum elongate, slender, densely covered with lepidote microtrichia.

**Material examined.** 2, China, Wufeng County (30°12' N, 116°40' E), Hubei Province, 1 100 m, 11 July 1999, coll. LI Hou-Hun, genitalia slide no. XYL03258; 1, Mt. Pinglong, Shangsi County (22°09' N, 107°58' E), Guangxi Zhuangzu Autonomous Region, 510 m, 6 June 2002, coll. HAO Shu-Lian & XUE Huai-Jun; 3, Dong'er Workstation, 1 000 m, 4 Apr. 2008, and 2, 1, Dongyi Protective Station, 650 m, 7 Apr. 2008,



Figs. 17-20. Male genitalia of *Gerontha* spp. 17-18. *G. siamensis* Moriuti. 17. Male. 18. Female. 19. *G. navapuriensis* Moriuti. 20. *G. borea* Moriuti.

Mt. Bawang, Changjiang County (19°16' N, 109°03' E), Hainan Province, leg. HU Bing-Bing and BAI Hai-Yan.

Distribution. China, Guangxi, Guizhou, Hainan, Hubei.

Remarks. This species is similar to *Gerontha namhaensis* Ponomarenko & Park, but differs from it in the male uncus obtusely pointed at apex, the juxta consisting of two large somewhat nephroid symmetrical plates, and the aedeagus gently arced near apex and truncate at apex.

In *G. namhaensis* Ponomarenko & Park, the uncus is obviously concave at apex, the juxta is inconspicuous, and the aedeagus is almost straight near apex and obtusely rounded at apex.

The female is reported for the first time.

*Gerontha siamensis* Moriuti, **1989** New record to China (Figs. 7, 17, 18)

*Gerontha siamensis* Moriuti, 1989: 93; Robinson & Tuck, 1996: 9.

Adult (Fig. 7). Wingspan 28.0-33.0 mm.



Male genitalia (Fig. 17). As illustrated.

Female genitalia (Fig. 18). The eighth tergum laterally sclerotized, irregularly triangular; anterior margin with lateral 1/4 slender, fused with apophyses anteriors, medial 1/2 obviously widened, convex in arc, densely covered with tubercle processes. Ostium Y-shaped, densely covered with tubercle processes; basal half membranous; distal half bifurcated, each heavily decurved and folded at middle, caudal margin deeply covered with long hairs in medial 1/2. Ductus bursae with distal 2/5 gradually widened to corpus ostium. Ostium bursae pyriform, indiscriminated with ductus bursae; signum elongate, slender, densely covered with lepidote microtrichia.

Material examined. 2, China, Mengla County (21°29' N, 101°33' E), Yunnan Province, 650 m, 23-25 Aug. 2005, coll. REN Ying-Dang; 1, Jianfengling, Hainan Province, 940 m, 5 June 2007, coll. ZHANG Zhi-Wei and LI Wei-Chun; 1, Mt. Wuzhi, Hainan Province, 700 m, 19 May 2007, coll. ZHANG Zhi-Wei and LI Wei-Chun.

Distribution. China, Yunnan; Thailand.

Remarks. The species is similar *Gerontha navapuriensis* Moriuti. It can be distinguished from the latter by forewings white, valvae slightly concave on ventral margin, juxta somewhat M-shaped and aedeagus pointed at apex. In *G. navapuriensis* Moriuti, the forewings are pale ochereous or dark grayish ochereous, the valvae bears a small process at middle on ventral margin, the juxta is inconspicuous and the aedeagus is truncate at apex.

This species varies slightly in the median plate of gnathos, mainly in the scale of the broad basal portion versus the rod-shaped distal portion, and in the shape of the broad basal portion (Moriuti, 1989).

The female is reported for the first time.

*Gerontha navapuriensis* Moriuti, 1989 New record to China (Figs. 8, 19)

*Gerontha navapuriensis* Moriuti, 1989: 94; Robinson & Tuck, 1996: 9.

Adult (Fig. 8). Wingspan 18.0 mm.

Male genitalia (Fig. 19). As illustrated.

Material examined. 1, China, Leye County (24°47' N, 106°34' E), Guangxi Zhuangzu Autonomous Region, 910 m, 28 July 2004. coll. XU Jia-Sheng.

Distribution. China, Guangxi; Thailand.

Remarks. The species is closed to *Gerontha tudai* Moriuti, but differs from the latter in the medial plate of gnathos basally broad and distally much narrowed and somewhat rod-shaped, apex pointed, while in the latter species, it is somewhat rectangular or arc-shaped, apex broadly rounded, bearing or lacking a small process at middle; in the new species, the basal portion of valvae is nearly equal to the width of distal portion, whereas in *G. tudai* Moriuti, the basal portion of valvae is obviously broader than the distal portion. The medial

plate of gnathos in Fig. 17 is artificially separated in the course of dissection.

*Gerontha borea* Moriuti, 1977 New record to China (Figs. 9, 20)

*Gerontha borea* Moriuti, 1977: 131.

Adult (Figs. 9). Wingspan 11.0-23.0 mm.

Male genitalia (Fig. 20). As illustrated.

Material examined. 5, China, Qinmu Village, Yongfu County (24°59' N, 109°59' E), Guangxi Zhuangzu Autonomous Region, 160 m, 1 to 6 May 2008. coll. ZHANG Li and ZHEN Hui; 2, Shuiman, Mt. Wuzhi (18°50' N, 109°42' E), Hainan Province, 700 m, 20 to 21 May 2007, leg. ZHANG Zhi-Wei and LI Wei-Chun.

Distribution. China, Guangxi, Hainan; Japan.

Remarks. The species is characterized by the uncus concave in shape; the gnathos curved, elbow-shaped and joined with each other at apex; the juxta composed of two symmetrical elongate, slender structures, and joined basally with the band-shaped process of valvae at base.

*Gerontha hoenei* Petersen, 1987

*Gerontha hoenei* Petersen, 1987: 152; Robinson & Tuck, 1996: 9.

Type material. Holotype, deposited in the Museum Alexander. Koenig/Bonn. Paratypes 4, deposited in the Museum Alexander Koenig/Bonn and Inst. Plant. Prot. Res., Eberswalde, GDR (Petersen, 1987).

Distribution. China, Yunnan, Zhejiang.

Remarks. Petersen (1987) described the species based on four male specimens collected by Dr. H. Höne from Yunnan Province in 1935 and one male specimen from Zhejiang Province in 1932. Unfortunately, we have not collected the specimens of this species from these two localities.

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## 中国太宇谷蛾属分类研究（鳞翅目，谷蛾科）

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**摘要** 记述中国太宇谷蛾属 *Gerontha* Walker 10 种，其中有 4 新种：拟华太宇谷蛾 *G. similiohenei* sp. nov., 喙太宇谷蛾 *G. rostriformis* sp. nov., 梯缘太宇谷蛾 *G. trapezia* sp. nov., 褶太宇谷蛾 *G. rugulosa* sp. nov. 和 3 新纪录种：暹罗太宇谷蛾 *G. siamensis* Moriuti, 1989 (图 7, 17~18)、清迈太宇谷蛾 *G. navapuriensis* Moriuti, 1989 (图 8, 19)、钻太宇谷蛾 *G. borea* Moriuti, 1977 (图 9, 20)。首次发现和报道了弯茎太宇谷蛾 *Gerontha flexura* Huang et al. (图 6, 15-16) 和暹罗太宇谷蛾 *G. siamensis* Moriuti 的雌性个体。文中给出了所有中国种的检索表。研究标本保存于南开大学生命科学学院昆虫标本室。

**拟华太宇谷蛾，新种** *Gerontha similiohenei* sp. nov. (图 1, 10)

新种与华太宇谷蛾 *Gerontha hoenei* Petersen 相似，但爪形突末端钩状，向外弯曲，两侧三角形内折；颧形突中臂约呈倒 V 形向后略突出，无短刺；基腹弧后缘中间略凹。华太宇谷蛾 *G. hoenei* 爪形突末端约呈三角形，略向外弯曲；颧形突中臂弓形强烈向后弯曲，且被短刺；基腹弧后缘在中间明显向后伸出一不规则矩形骨化板。

**正模**，云南昆明西山 (25°04' N, 102°42' E)，2 080 m，2005-09-01，任应党采，玻片号 XYL05046。

**词源**：新种名出自拉丁前缀 *simil-* (相似的)，表示与华太宇谷蛾 *G. hoenei* Petersen 相似。

**褶太宇谷蛾，新种** *Gerontha rugulosa* sp. nov. (图 2, 11)

新种与 *Gerontha dolichophallica* Moriuti 近似，但抱器瓣略呈弓形弯曲，末端钝圆，颧形突中臂基部 2/3 近半圆形，端部 1/3 短棒状。在 *G. dolichophallica* 中，抱器瓣近靴形，末端宽，截形，颧形突中臂从基部至端部渐窄。新种也相似于 *G. akahatii* Moriuti，但爪形突末端突出一短棒，颧形突基部 1/3 被微刺，抱器瓣长约为宽的 3.2 倍，基腹弧中部宽，后缘略突出，前缘两侧略弯曲。而 *G. akahatii* 的爪形突末端双叶状，颧形突无微刺，抱器瓣长约为宽的 2.5 倍，基腹弧近三角形。

**关键词** 鳞翅目，谷蛾科，太宇谷蛾属，分类学，新种，中国。  
 中图分类号 Q969.424.5

**正模**，云南勐腊补蚌 (21°29' N, 101°33' E)，650 m，2005-09-25，任应党采，玻片号 XYL05047。

**词源**：拉丁词 *rugulosus* (细褶的)，示阳茎基部 3/5 密具细褶。

**梯缘太宇谷蛾，新种** *Gerontha trapezia* sp. nov. (图 3, 12)

新种与 *Gerontha namhaensis* Ponomarenko & Park 相似，但爪形突末端钝尖，基腹弧后缘在中间梯形向后突出，囊形突端半部弓形弯曲，阳茎基环发达而易与后者区别开来；而 *G. namhaensis* 的爪形突末端明显内凹，基腹弧后缘略呈三角形向后突出，囊形突近平直，阳茎基环不明显。

**正模**，浙江天目山开山老殿 (30°26' N, 119°34' E)，1 140 m，1999-08-17，李后魂等采，玻片号 XYL03218。副模：1 贵州省道真县大沙河，1 350 m，2004-08-24，肖云丽采；1 广西融水县培秀村，579 m，2004-07-13，徐家生采。

**词源**：拉丁词 *trapezium* (梯形的)，示基腹弧后缘中间呈梯形向后突出。

**喙太宇谷蛾，新种** *Gerontha rostriformis* sp. nov. (图 4, 13)

新种与 *Gerontha amplipecta* Ponomarenko & Park 相似，但颧形突细长，末端愈合，基腹弧背缘三角形突出，前缘近平直，阳茎仅略长于囊形突；在 *G. amplipecta* 中颧形突不明显，基腹弧后缘略波形弯曲，前缘 M 形弯曲，阳茎约为囊形突的 1.5 倍。该种也与 *G. namhaensis* Ponomarenko & Park 相似，但爪形突末端微凹，抱器瓣腹缘约在 2/5 处内折，抱器腹不发达，基腹弧背缘三角形突出，前缘近平直，阳茎仅略长于囊形突；在 *G. namhaensis* 中爪形突末端明显内凹，抱器腹发达，抱器瓣腹缘约在中间强烈内凹，基腹弧前后缘略呈三角形向后突出，阳茎约为囊形突的 1.5 倍。

**正模**，河南西峡黄石庵 (33°18' N, 111°29' E)，890 m，1998-07-16，李后魂采，玻片号 XYL03577。

**词源**：拉丁词 *rostriformis* (鸟喙状的)，示颧形突中间愈合成鸟喙状。